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Conservation and Development Commission

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| Policy Report Update   | ) |                   |
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COMMENTS OF  
THE UTILITY REFORM NETWORK  
ON DRAFT STAFF WHITE PAPER ON TRANSMISSION ISSUES

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## **Comments of The Utility Reform Network on Draft Staff White Paper on Transmission Issues**

The Utility Reform Network (TURN) appreciates the opportunity to provide written comments on the Draft Staff White Paper on “Upgrading California’s Electric Transmission System: Issues and Actions for 2004 and Beyond,” in support of the 2004 Integrated Energy Policy Report Update Proceeding (Docket #03-IEPR-1). The following expands on oral comments made at the transmission workshop on August 23, 2004. The majority of our comments are focused on the issue of the proposed social discount rate for use in analyzing transmission investments. A lack of discussion of other topics, however, should not be interpreted as agreement by TURN with the Staff Draft in all of its other conclusions.

### **I. Use of a Social Discount Rate is Not Justified**

#### ***A. A Social Discount Rate is not Justified on the Basis of Strategic Benefits***

The Draft Staff White Paper on transmission issues suggests that high voltage transmission is a public good with “strategic” benefits that should be evaluated using a social discount rate. (Staff Draft, p. 21-26). This is a prominent staff recommendation (p.2). TURN is very concerned with this proposal for reasons discussed below. First, the alleged strategic benefits do not support the use of a social discount rate.

#### **1. The first-best analytical method is to incorporate directly the strategic benefits (and costs)**

The strategic benefits of transmission are listed in the Staff Draft as:

- Insurance against contingencies during abnormal system conditions
- Price stability and mitigation of market power

- The potential for increased reserve resource sharing
- Environmental benefits
- Reduction in infrastructure needs, and
- Achievement of state policy objectives. (p. 16)

As a first-best estimate, it is preferable to incorporate these factors directly into the benefit/cost methodology, rather than change the discount rate. Indeed the ISO has already undertaken an extensive estimate of market power mitigation in its proposed TEAM method (Transmission Economic Assessment Methodology, presented at the Public Utilities Commission (PUC) in I.00-11-001 on June 2, 2004). Using a social discount rate to incorporate this benefit would mean double-counting of this factor. Similarly the effect of new transmission on reserve requirements is already included in the ISO's TEAM methodology.

The questionable strategic benefits of insurance and environmental consequences will be discussed in sections below.

Achievement of state policy objectives for renewables (p.18) is already being incorporated into transmission planning by implementing a higher priority for construction of transmission for renewable generation. As stated in TURN's comments in R.04-01-026:<sup>1</sup>

"In adopting the enabling RPS legislation (SB 1078), the legislature provided specific guidance for such transmission projects by adding section 399.25 to the Public Utilities Code. This section reads as follows:

399.25. (a) Notwithstanding any other provision in Sections 1001 to 1013, inclusive, an application of an electrical corporation for a certificate authorizing the construction of new transmission facilities shall be deemed to be necessary to the provision of electric service for purposes of any determination made under Section 1003 if the commission finds that

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<sup>1</sup> Opening Comments of TURN on the OIR, April 6, 2004, p.23.

the new facility is necessary to facilitate achievement of the renewable power goals established in Article 16 (commencing with Section 399.11).

The Commission has already determined that this section applies to network transmission facilities proposed in either a CPCN or PTC application.<sup>2</sup> As a result of this section, significant transmission upgrades could be deemed ‘necessary’ based solely on the addition of new renewable generation procured through competitive solicitations.”

Again, using the rationale that transmission supports renewables as a justification for a low social discount rate is double-counting this benefit, because transmission support of renewables is already internalized by §399.25 (a).

Thus upon further examination it is obvious that many of the alleged strategic benefits of transmission have already been incorporated into the planning process in various ways. **We do not see large unquantified strategic benefits that justify a lower social discount rate.**

## **2. Insurance benefit of transmission should be calculated as Incremental to other insurance programs.**

Since the energy crisis California has undertaken many steps to reduce exposure to high electricity prices and market manipulation. Some steps include:

- A requirement that load-serving entities contract for 90% of the expected load 1 year in advance, and procure a maximum of 5% on the spot market (D.04-01-050);

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<sup>2</sup> D.03-07-033, Ordering Paragraph 1 (“The provisions of § 399.25 apply to network transmission facilities that come before the Commission in the form of a Certificate of Public Convenience and Necessity (CPCN) or Permit to Construct (PTC) application. “Network” transmission facilities are defined as those that are needed to ensure reliable electric service and full delivery of a generator’s output with the addition of generation. The provisions of § 399.25 do not apply to transmission facilities needed to bring power from the plant to the first point of interconnection with the existing transmission grid.”)

- A requirement that planning reserve margins of 15-17% be maintained as of 2008 (D.04-01-050);
- A demand response goal of 5% of system peak by 2007 (D.03-06-032); and
- An investigation of the cost-effectiveness of advanced meters to implement price-responsive demand (R.02-06-001).

The result is that ratepayers are already paying for insurance against resource inadequacy and high prices in the form of the above steps. The requirements for advance contracting and higher reserve margins already assure that if there is any exposure to high market prices, it would be for only the small portion of the load that is unhedged (less than 5% under normal conditions). Any insurance benefit that is to be attributed to transmission should be calculated as incremental to the insurance that is already available from implementation of the above steps. Insurance benefits should not be double counted. TURN suspects that after considering the insurance value provided by the above steps, there is very little additional value to be had from insurance via building transmission. **We suspect that the incremental insurance value from transmission, if it cannot be explicitly quantified as a benefit as would be preferred, is not enough reason to employ a social discount rate.**

During the workshop on August 23<sup>rd</sup> Commissioner Geesman noted that Bay-area customers who were blacked out during the energy crisis might have benefited from the insurance value that IOU participation in the COTP project might have provided. That project was built without IOU participation, however, and was accessible to customers on the grid during the energy crisis regardless of who built it. That the COTP did not succeed in preventing the blackouts demonstrates that transmission alone does not always provide insurance.

If an insurance value is attributed to transmission, at some point we must answer the question, “are we overinsured?” Just as we do not plan for zero loss of load probability in generation, it will not be cost-effective for society to plan for zero exposure to high prices.

### 3. Environmental benefits

The staff draft identifies environmental benefits as a strategic factor that could support use of a social discount rate. We should not skew the analysis, however, to incorporate environmental benefits without accounting for the environmental and social costs of transmission.

As discussed above the first-best method would directly include quantification of environmental consequences. The quantification of emissions consequences of different scenarios is a feature that could be introduced into the ISO TEAM methodology<sup>3</sup> but has not yet been implemented. Absent a complete analysis it should not be assumed, however, that the environmental consequences of transmission would be a net benefit. To the extent that increased transmission permits larger imports from the Southwest of coal-fired power as well as electricity from gas-fired resources that do not include SCR as in California, the environmental consequences should not be presumed to be positive on balance to the western region as a whole. **It would be an error to assume environmental benefits as a reason to implement a social discount rate; environmental costs must also be included.**

Furthermore, transmission projects have environmental costs in many cases because of their land-use impacts on sensitive wilderness areas, farmland, and critical vistas. To give transmission projects credit through the discount rate

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<sup>3</sup> Based on a telephone conversation between Gayatri Schilberg of JBS Energy and Anna Geevarghese of the ISO, April, 2004.

for environmental benefits while ignoring obvious negative land-use impacts is one-sided.

### ***B. The Use of a Social Discount Rate Can Introduce Distortion***

By using a lower social discount rate, say 3 %, the stream of future benefits is given a higher weight than if a higher discount rate is used, say 10%, representing the cost of capital.<sup>4</sup> As shown in the Staff Draft the lower discount rate increases the benefits of a project (p.23). Several aspects must be considered.

The cost-effectiveness of different utility investments, such as energy efficiency vs. transmission, is ultimately weighed at the PUC where limited capital resources are rightfully judged using the utility's cost of capital. Thus a project which under a CEC analysis might be cost-effective using a social discount rate may still prove non-cost-effective at the PUC. It is important that the actual cost of capital be part of the analysis for several reasons:

- This is the real cost of borrowing funds for the utility project;
- This is the opportunity cost for projects that are not undertaken if transmission uses a larger share of scarce resources such as capital (including more energy efficiency, renewable generation, etc.);
- This is the rate of return that users of the system must pay to use utility capital for the project. It is inequitable if a project is built because if it is barely “cost-effective” using a discount rate of 3% whereas the users of the project must pay 10% for use of the capital.

Use of a lower social discount rate for appliance and building standards is entirely appropriate, as mentioned at the workshop on August 23<sup>rd</sup>. High individual consumer discount rates indicate a preference for benefits today

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<sup>4</sup> As we have seen in the generation market, private developers tend to have an even higher required rate of return.

rather than in the future<sup>5</sup> that is unhealthy if the consequences are taken to a societal level, especially for standards that could provide savings for a long time. In the case of investments within the electricity sector, however, we are making tradeoffs of one type of investment versus another at the societal level (for example transmission vs. distribution vs. energy efficiency). It is important that the same discount rate be used in these tradeoffs to properly allocate limited capital resources.

## **II. If a Social Discount Rate is Applied**

If a social discount rate is used to evaluate transmission, despite TURN's objections, several improvements must be made in the cost/benefit methodology.

### ***A. Risk Must be Incorporated***

Given that a low social discount rate weighs future benefits more than using the cost of capital as a discount rate, the fact that the "future benefits" have an associated risk should be accounted for if a social discount rate is used. For example, if the alleged transmission benefit of reducing market power is measured by price differences (with and without transmission) at different hubs, there is a risk that the expected price difference may not materialize. Several factors could affect such expected market power, such as another generator locating in the area or a transmission line built by a third party. A project with a relatively risky stream of potential benefits, such as one expecting to alleviate

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<sup>5</sup> Customers will tolerate interest rates on credit card debt at levels of 17-19%. Moreover, discount rates observed from consumers' decisions on conservation investments are extremely high reflecting issues such as expected length of residency in the property versus life of the investment, lack of information, and lack of capital to invest. Other issues that can cause apparently high discount rates for conservation include split incentives between landlords vs. tenants and builders vs. new owners.



market power, should be differentiated from a project that has a less risky benefit stream. If risk is not incorporated, future benefits will be overestimated.

### ***B. Benefits Should Exceed Costs by a Significant Amount***

In traditional analysis a project is considered cost-effective if the benefit/cost ratio is 1 or more, e.g. quantified benefits at least equal costs. With increased benefits as a result of using a social discount rate, many more projects would look beneficial and there is the possibility that the limited capital may not be allocated to the most beneficial projects. Therefore TURN proposes that if such a social discount rate is used, the cutoff B/C ratio should be much higher than under traditional analysis, for example at least 2. If a project does not look good with a social discount rate and a least a B/C ratio of 2, it may not be the best use of societal resources.

## **III. Banking Transmission Corridors**

The Staff Draft recommends investigating with the CPUC and the IOUs the consequences of D.87-12-066 that utilities can only hold property in rate base for future use for 5 years. (p. 40). As noted in the August 23<sup>rd</sup> workshop, ratebase regulation for transmission plant is now a FERC issue and thus the CPUC may not be the appropriate body, and 5 years may not be the applicable rule.

As a general caution on this topic, it is worth remembering that the relevant section of D.87-12-066 was necessary because ratepayers fund the cost of parcels in ratebase. D.87-12-066 quoted an annual carrying charge for ratepayers of 18.07% at that time.<sup>6</sup> Furthermore utilities (not just Edison) had been carrying unused parcels in ratebase for long periods of time (an average of 16 years for

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<sup>6</sup> The carrying charge (rate of return plus associated income taxes) is now in the 13% range due to lower interest rates than in the mid-1980s.

Edison).<sup>7</sup> A balance needs to be maintained between the cost of obtaining a transmission corridor and the cost incurred by ratepayers until it is used. Thus TURN would not favor an impetuous changing of the 5 years to a larger number without studying the consequences. As the Staff Draft notes (p.38), the PUC decision, if it proves to be the applicable regulation, does not prevent the utility from holding property for future use. Rather, it prohibits holding the property in ratebase (and ratepayer payments of carrying charges) for more than 5 years.

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<sup>7</sup> The CEC, when trying to work with the PUC to develop a plan to keep PG&E financially healthy while encouraging conservation, cogeneration, and renewables, looked at PG&E's Plant Held for Future Use and Construction Work in Progress in PG&E's 1982 TY General Rate Case and found large numbers of dead nuclear plants that had been retained in PHFU and CWIP for as long as ten or fifteen years and proposed to clear out the deadwood that had built up before the five-year policy was adopted, while giving PG&E some immediate cash and sharing the costs and risks of the dead projects between ratepayers and shareholders. See W. B. Marcus, Report on PG&E's Financial Condition, Testimony of CEC Staff in CPUC App. 60153, May, 1981.